



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,600	03/30/2004	Hiromitsu Kobayashi	AK-T-451XX	5892
207	7590	06/01/2006	EXAMINER	
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP TEN POST OFFICE SQUARE BOSTON, MA 02109				MACKEY, JAMES P
		ART UNIT		PAPER NUMBER
				1722

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/814,600	KOBAYASHI ET AL.
	Examiner James Mackey	Art Unit 1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1 and 2 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 March 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/30/2004</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____.

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "4" has been used to designate both the mold and the piston of the clamping ram 13 (correctly identified as "14" for the right clamping cylinder in Figure 1 but incorrectly identified as "4" for the left clamping cylinder in Figure 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The abstract of the disclosure is objected to because the abstract should be limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Art Unit: 1722

4. Claim 1 is objected to because of the following informalities: on line 2 of claim 1, "on which sets an injection mold is set" is grammatically improper. Appropriate correction is required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 12-13, "the inner diameter of other portions of the lower end portion" is unclear and indefinite (it should apparently read --the inner diameter of other portions of the cylinder portion--); line 28, "said mold clamping cylinders" and lines 29 and 36, "said clamping rams" lack proper antecedent basis as a plurality, since the claim previously recites only a single cylinder and ram; lines 28-29, "have the mold clamping rams respectively" is unclear and indefinite as to exactly what is intended to be claimed; lines 33 and 37, "a pair" should be --said pair-- to clearly refer to the pair previously recited at line 28; and lines 37-38, "include to make an operation" is unclear and apparently incomplete.

In claim 2, line 16, "closer" is indefinite (closer than what?); and line 22, "a pair" should be --said pair-- to clearly refer to the pair recited in claim 1.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takada (U.S. Patent 4,861,259; Figure 8; col. 9, lines 57-61).

Takada discloses a mold clamping apparatus substantially as claimed (see Figure 8), comprising a base platen 21 and a stationary platen 22 interconnected by tie bars 23, a movable platen 20 slidably positioned on the tie bars between the base and stationary platens, a pair of spaced mold clamping cylinders 28 on the stationary platen and each including a clamping ram 30 connected to the movable platen, a booster ram 31 inserted internally in each clamping ram, a pressure oil circulation device 43-45 provided to a side of the clamping cylinder, a charge cylinder 29 provided on the stationary platen between the pair of clamping cylinders, a charge

rod 46 of the charge cylinder being connected with the movable platen, a lower end portion of the charge cylinder communicating with a lower end portion of each clamping cylinder via line 56. The Figure 8 embodiment of Takada does not teach the inner diameter of the lower end portion of the clamping cylinder being smaller than the inner diameter of other portions of the clamping cylinder. However, such is well known and conventional in the mold clamping art, as evidenced by the Figure 7 embodiment of Takada. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the embodiment of Figure 8 of Takada by providing the inner diameter of the lower end portion of the clamping cylinder being smaller than the inner diameter of other portions of the clamping cylinder, as is well known in the art and as shown in the embodiment of Figure 7 of Takada, in order to provide for faster opening and closing movements.

11. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Kobayashi (U.S. Patent 6,394,787; Figures 1A-1B), Katashi (U.S. Patent 4,981,426; Figures 1-6) and Takeuchi (U.S. Patent 5,062,787; Figures 3-5), in view of either Takada (U.S. Patent 4,861,259; Figure 8, col. 9, lines 57-61) or Hehl (U.S. Patent 5,052,910; Figures 3-8).

Each of Kobayashi, Katashi and Takeuchi discloses the mold clamping apparatus substantially as claimed, including a base platen and a stationary platen interconnected by tie bars; a movable platen slidably positioned on the tie bars between the base and stationary platens; a mold clamping cylinder positioned on the stationary platen and having a ram connected to the movable platen, the inner diameter of a lower end portion of the clamping cylinder being smaller than the inner diameter of other portions of the clamping cylinder and the ram having a piston with an outer diameter fitting the lower end portion of the clamping

cylinder; a booster ram inserted internally to the ram; a circulation device including a cylinder having circulation ports and supply/discharge ports on upper and lower sides, a valve seat adjacent the upper side, and a spring biased check valve connected to a piston rod responsive to a pilot circuit in a cover member of the circulation cylinder; and a charge cylinder provided to a side portion of the clamping cylinder such that a lower end portion of the charge cylinder communicates with the lower end portion of the clamping cylinder, the charge cylinder having a charge rod connected to the movable platen. None of Kobayashi, Katashi and Takeuchi discloses a pair of spaced mold clamping cylinders cooperating with a charge cylinder positioned therebetween.

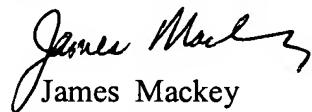
Takada and Hehl '910 each discloses a mold clamping apparatus comprising a base platen and a stationary platen interconnected by tie bars, a movable platen slidably positioned on the tie bars between the base and stationary platens, a pair of spaced mold clamping cylinders on the stationary platen and each including a clamping ram connected to the movable platen, a booster ram inserted internally in each clamping ram, and a charge cylinder provided on the stationary platen between the pair of clamping cylinders, a charge rod of the charge cylinder being connected with the movable platen, a lower end portion of the charge cylinder communicating with a lower end portion of each clamping cylinder. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify any one of Kobayashi, Katashi and Takeuchi by providing a pair of spaced mold clamping cylinders cooperating with a charge cylinder positioned therebetween, as disclosed in either Takada or Hehl '910, in order to provide a uniform clamping force on the movable platen.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 571-272-1135. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


James Mackey
Primary Examiner
Art Unit 1722

5/30/06

jpm
May 30, 2006